

Cancer Prevention and Control in Maryland: The Next 20 Years

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We already know what causes ~50% of cancers in the US, including in Maryland

- Primarily
 - Smoking
 - Constellation of obesity, poor diet, physical inactivity

Applying What We Know to Accelerate Cancer Prevention

Graham A. Colditz,^{1*} Kathleen Y. Wolin,¹ Sarah Gehlert²

More than half of the cancer occurring today is preventable by applying knowledge that we already have. Tobacco, obesity, and physical inactivity are the modifiable causes of cancer that generate the most disease. Cancer burden can be reduced by alterations in individual and population behaviors and by public health efforts as long as these changes are driven by sound scientific knowledge and social commitment to change. The obstacles to these efforts are societal and arise from the organization of institutions, including academia, and in the habits of daily life. To achieve maximal possible cancer prevention, we will need better ways to implement what we know and improved infrastructure that will better incentivize and support transdisciplinary, multilevel research and successful intervention.

Colditz GA, Wolin KY, Gehlert S. Sci Transl Med 2012;4(127):127rv4. PMID: 22461645.

Cancer prevention and control in Maryland: The next 20 years

- About to state the obvious 😊
 - Reminding and cheerleading for these efforts
- Disclosure
 - These are my opinions, not necessarily those of DHMH or the Johns Hopkins University

What should we Marylanders focus on now and going forward?

- Emphasize
 - Cancer risk factors that are also risk factors for other common chronic diseases like cardiovascular disease and diabetes
 - Cigarette smoking
 - Obesity, poor diet, and inactivity
 - Doing so, will help re-enforce shared, non-siloed responsibility across prevention and control
 - Avoids duplication of efforts and expenditures
 - Creates a seamless model for population health and public health efforts
- De-emphasize
 - Controversial factors
 - Quick fixes (“magic pills”)

Smoking

- Maryland has had major declines in the prevalence of smoking and we have one of the lowest prevalences among US states
 - Successful policy changes (taxation, laws)
 - Continue to educate lawmakers on the evidence regarding public health effects of tobacco taxation and regulation
 - Successful social change (public service announcements, norms)
- Yet, shouldn't we Marylanders continue efforts to reduce the prevalence of smoking as a main strategy for cancer prevention and control?
 - Despite the stale messages of “quit smoking” and “don't start smoking”

Who are we missing despite our state's tremendous tobacco control efforts?

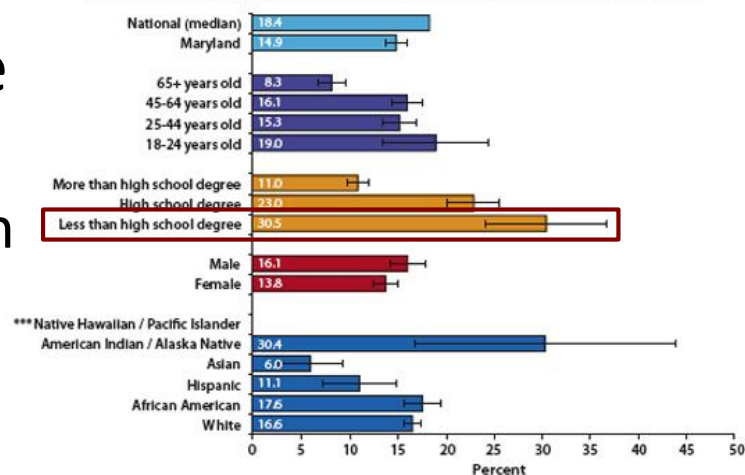
- ~15% Marylanders age 18+ smoke
 - >600,000 Marylanders!!! (Per CDC)
 - ~30% among adult Marylanders with less than a high school degree

- Is primary care the setting to reach them?

- Patients, in general

- Under the Affordable Care Act:
In theory, everyone can be a patient, i.e., have health insurance and receive certain preventive services (USPSTF grade A or B recommendations) without cost sharing.

Current Smoking among Adults by Demographic Characteristics



*** Data not shown because sample size is less than 50.

http://www.cdc.gov/tobacco/data_statistics/state_data/state_highlights/2010/states/maryland/index.htm

Source: BRFSS, 2007-2008

Current Recommendation

Release Date: April 2009



U.S. Preventive Services Task Force

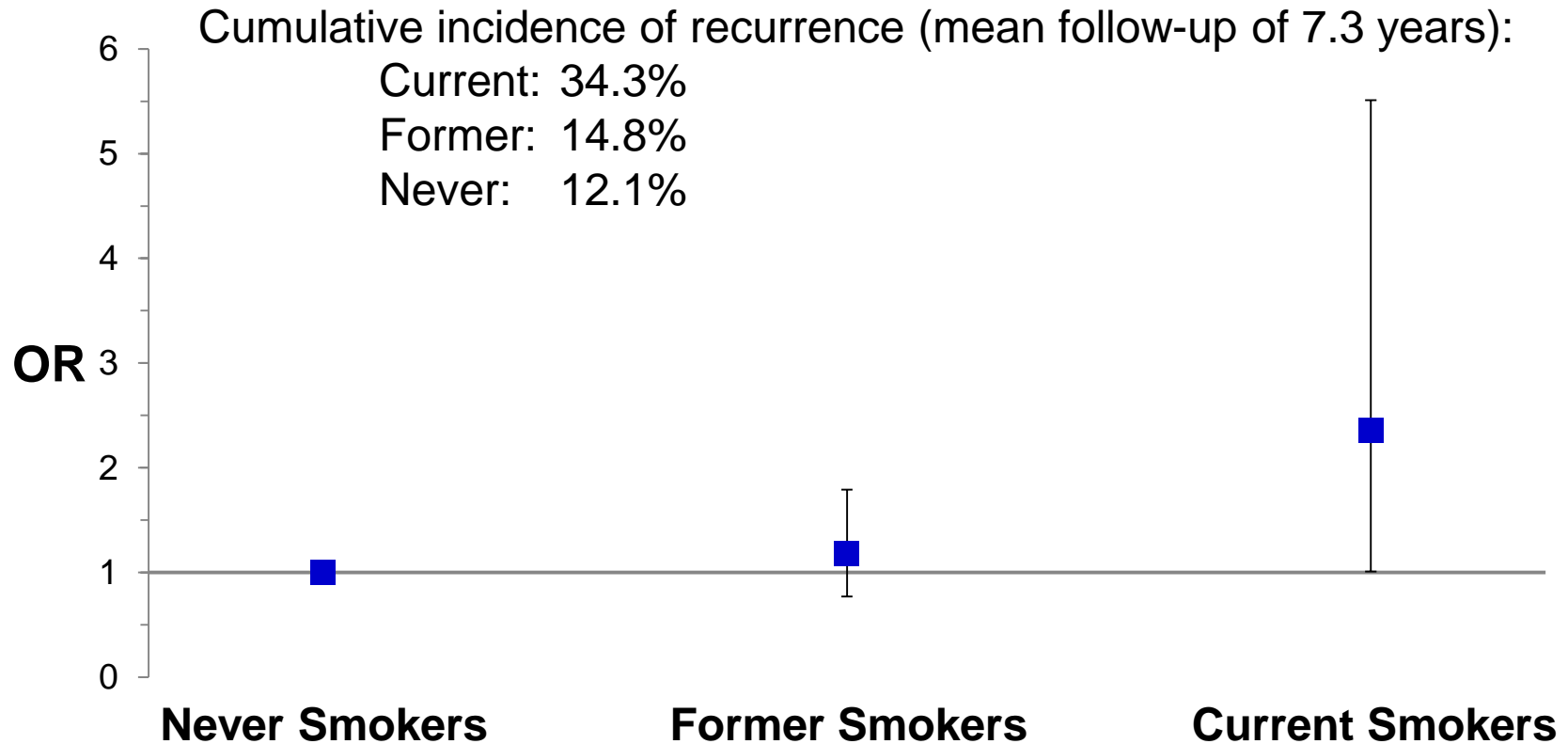
- The USPSTF recommends that clinicians ask all adults about tobacco use and provide tobacco cessation interventions for those who use tobacco products.
Grade: [A recommendation](#).
- The USPSTF recommends that clinicians ask all pregnant women about tobacco use and provide augmented, pregnancy-tailored counseling for those who smoke.
Grade: [A recommendation](#).

<http://www.uspreventiveservicestaskforce.org/uspstf/uspstbac2.htm>

Who else are we missing despite our state's tremendous tobacco control efforts?

- Cancer patients and their family members and friends?
- Should we be more emphatically encouraging cancer patients and survivors to quit smoking?
- Smoking is a risk factor for
 - Poor cancer outcomes in cancer patients
 - Second primary cancers
 - Death from other chronic diseases in those who survive their cancer

Men who smoke have a higher risk of prostate cancer recurrence after prostatectomy



Smoking status 1 year after surgery

Adjusted for body mass index and physical activity 1 year after surgery, age, race/ethnicity, family history, pre-operative PSA, year of surgery, stage, surgical margins, and grade

Promote smoking cessation among cancer patients

- Will require policy and systems changes to fully implement in our cancer centers.
- Smoking in Cancer Care (PDQ® - peer-reviewed, evidence-based summaries)
 - <http://www.cancer.gov/cancertopics/pdq/supportivecare/smokingcessation/HealthProfessional/page1/AllPages>

Let's not forget about young Marylanders

- Young Marylanders have a low prevalence smoking compared with the US as a whole
- Nevertheless, should an even greater emphasis be placed on tobacco use prevention during primary care visits?

Primary Care Interventions to Prevent Tobacco Use in Children and Adolescents

This topic page summarizes the U.S. Preventive Services Task Force (USPSTF) recommendations on primary care interventions to prevent tobacco use in children and adolescents.

Current Recommendation



Release Date: August 2013

- The USPSTF recommends that primary care clinicians provide interventions, including education or brief counseling, to prevent initiation of tobacco use in school-aged children and adolescents.

Grade: [B Recommendation](#).

<http://www.uspreventiveservicestaskforce.org/uspstf/uspstbac.htm>

- Continue to engage communities, including their young residents, around tobacco use prevention, and empower them to demand changes in the display of tobacco products and their advertisement in their environments.
 - Ads on the lower half of doors of convenience stores
 - Power walls behind cash registers

Are there population-level tobacco control efforts that we should enhance or adopt more broadly in Maryland?

- Maryland's Quitline

- Evidence-based
- Like all quitlines, **underfunded**



- DHHS' Tobacco-Free College Campus Initiative

- “to promote and support the adoption and implementation of tobacco-free policies at universities, colleges, and other institutions of higher learning across the United States”
- <http://tobaccofreecampus.org/about>



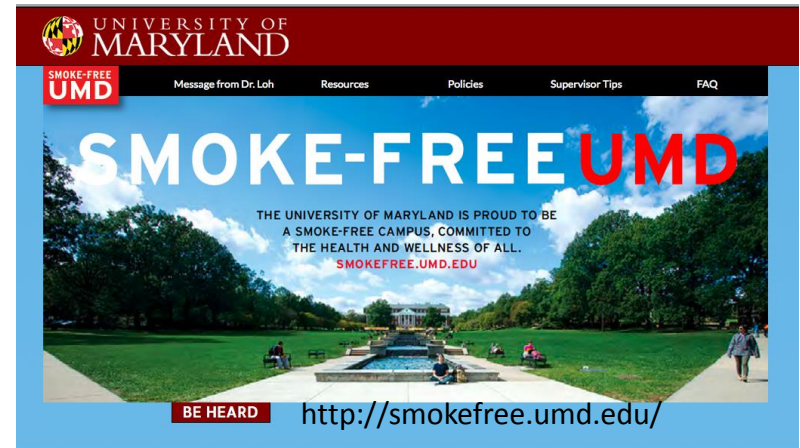
A shout out to Maryland's smoke-free college campuses!

July 1, 2013



- Carroll Community College
- Chesapeake College
- Coppin State University
- Frostburg State University
- Garrett College
- Harford Community College
- Howard Community College
- Maryland Bible College and Seminary
- Montgomery College
- Salisbury University
- Towson University
- Washington Adventist University

<http://www.no-smoke.org/goingsmokefree.php?id=447>



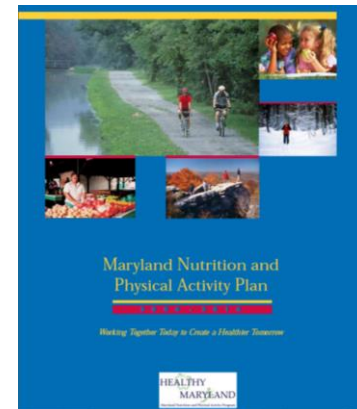
JHU has a smoke-free personnel policy



<http://hrnt.jhu.edu/pol-man/appendices/sectionI.cfm>

Intervening on obesity, poor diet, inactivity in Maryland

- Perhaps even harder to combat than smoking
- Laws aimed at intervening – hard sell
 - NYC experience with trying to regulate sugar-sweetened beverages
- Maryland cares about intervening on this constellation:
10-year nutritional and physical activity plan
 - “The goals of the Plan are to encourage and enable the citizens of Maryland to adopt and maintain healthy eating habits and lead physically active lifestyles to prolong the length and quality of life...By reaching the plan’s intermediate objectives, the State will begin to reverse the levels of overweight and obesity....”
 - phpa.dhmmh.maryland.gov/cdp/pdf/npaplan.pdf



Moving forward over the next 20 years to combat obesity, poor diet, inactivity?

- Should we implement comprehensive policy, systems, and environment changes in settings where Marylanders spend lots of their time?
 - Schools
 - Workplace
- Will require substantial, ongoing COLLABORATION!

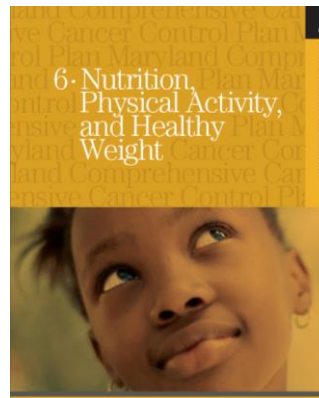
In the workplace:

Maryland Comprehensive Cancer Control Plan

By 2015, ensure that at least 25% of Maryland businesses have policies and supports for promoting healthy eating and physical activity.

STRATEGIES

- 1 ESTABLISH MECHANISMS** for obtaining a baseline and tracking the healthy eating and physical activity policies of workplaces and business, and for providing technical assistance to interested workplaces and businesses on improving workplace policies, programs, and support for nutrition, physical activity, and lactation support for workers.
- 2 ASSESS AND ADDRESS BARRIERS** for Maryland workplaces and businesses to establish worksite wellness programs that encourage healthier behaviors and meet their workers' health and wellness needs.
- 3 ENCOURAGE WORKPLACE WELLNESS INITIATIVES** through a recognition program for businesses with model policies and practices.
- 4 ESTABLISH STATE-LEVEL POLICIES** and supports to promote healthy eating and physical activity for state employees.



<http://phpa.dhmf.maryland.gov/cancer/cancerplan/SitePages/nutrition-pa.aspx>



<http://dhmf.maryland.gov/healthiest/SitePages/Home.aspx>

MEDICINE & SCIENCE

SUNDAY, NOVEMBER 17, 2013 | NEWS | THE BALTIMORE SUN

11

Your company and your waistline

Overweight employees and smokers are increasingly subjected to penalties

By KATHLEEN KINGSBURY
Reuters

Employers tried the carrot, then a small stick. Now they are turning to bigger cudgels.

For years they encouraged workers to improve their health and productivity with free screenings, discounted gym memberships and gift cards to lose weight. More recently, a small number charged smokers slightly higher premiums to get them to quit.

Results for these plans were lackluster, and health care costs continued to soar. So companies are taking advantage of new rules under President Barack Obama's



found workers who participated in a wellness program had health care costs averaging \$238 less per month than nonparticipants in the first year of the program and \$346 less in the fifth year.

Some health and labor experts are concerned that penalties may be unduly harsh, especially for low-wage workers and those who have health conditions beyond their control. According to the Centers for Disease Control and Prevention, 29 percent of adults with incomes below the federal poverty level smoke, compared with 18 percent of those above the poverty level.

Mark Rothstein, a lawyer and bioethics professor at the University of Louisville School of Medicine, chooses to pay a higher annual premium rather than complete a health questionnaire for his employer, calling it a "privacy tax." Lower-paid colleagues, he said, "don't have the same luxury to opt out."

Fierce resistance forced Pennsylvania

Individual awareness: Cancer risk calculators

- Should we encourage Marylanders to be aware of their own cancer risk behaviors and consequent cancer risk?
- Use a risk calculator
 - <http://www.yourdiseaserisk.wustl.edu/>
- Risk calculators
 - walk users through cancer risk behaviors and family and medical histories, and
 - generate an estimate of cancer risk relative to the typical risk in the general population.

Cancer—Breast cancer

Results: Breast cancer

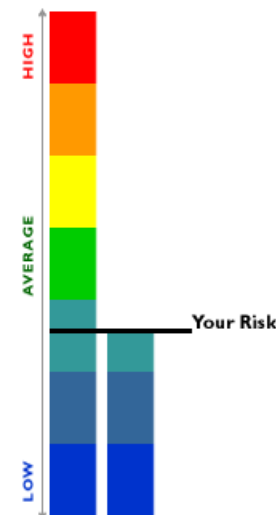
Compared to a typical woman your age, your risk is **below average**

Screening Tip

Beginning at age 20, get screened regularly. [More >>](#)

Below average risk means you don't have many risk factors. But it's just an estimate, and it doesn't mean you'll never get cancer. If you have any concerns, talk to a doctor.

Your risk is
below average



Based on how you answered the questionnaire and what we know about breast cancer, you're doing what you can to lower your risk.

But watch your weight. While your weight gain doesn't increase your risk right now, it's still important to keep your weight in check. [\[Tips\]](#)

Breast cancer has few controllable risk factors. But it's still important to know your risk and how these factors relate to it. Choose a healthy lifestyle to protect against breast cancer as well as other diseases. And don't forget to follow the screening recommendations.

Keep up the good work!

You're already doing these things to lower your risk:

Cancer risk calculators can help Marylanders identify their cancer risk behaviors, and how to change them

Tips

[Close window](#)

Adult Weight Gain

Try to achieve and maintain a healthy weight. It's one of the best things you can do for your health.

Though your weight doesn't currently increase your risk of breast cancer, achieving and maintaining a healthy weight is one of the best things you can do to keep yourself healthy.

Most weight gained in adulthood comes from putting on extra fat, which can increase the risk of many diseases, like heart disease, diabetes, and some cancers. The most important thing to do first is avoid any additional weight gain. Then find ways to take off extra pounds and keep them off for good.

A great way to lose weight is to be physically active. A lot of things count as physical activity, like walking, jogging, and dancing. Pick something you enjoy and get at least 30 minutes of activity a day. Make it a fun part of your normal routine. You can also ask friends and family members to be active with you - it's good for you and for them.

To see where you fall on the weight range, click [here](#)

Don't feel like you have to tackle losing weight alone. Losing weight and maintaining a healthy weight can be challenging. Talk to a doctor or other health care provider for advice. And remember: small changes can make a big difference over time.

To learn more about eating well and exercising visit these web sites:

Fitness Center

[American Heart Association](#)

Fit Forever

[American Heart Association](#)

Achieving a Balance

[Centers for Disease Control and Prevention](#)

Community Action

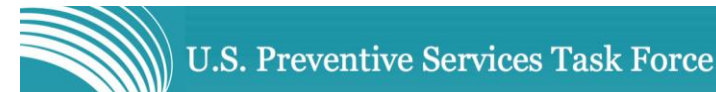
Moving forward over the next 20 years to combat obesity, poor diet, inactivity in Maryland

- Should we issue innovation challenges for obesity, poor diet, and inactivity prevention and intervention?
- Should we further encourage grassroots calls for changes in societal norms and expectations around eating and physical activity?

Combat obesity in the primary care setting to ensure good health in general

- Should we promote the heightening of expectations of Maryland health systems and insurers for Population Health?
 - Should we take advantage of ACA, CMS, and accreditation required quality measures, and electronic medical record meaningful use incentives related to body fatness measurement?

Screening for Obesity in Children and Adolescents



Release Date: January 2010

This topic page summarizes the U.S. Preventive Services Task Force (USPSTF) recommendations on screening for obesity in children and adolescents.

[Summary of Recommendation](#) / [Supporting Documents](#)

This is an update to the July 2005 recommendations on screening and interventions for overweight in children and adolescents.

Summary of Recommendation

- The USPSTF recommends that clinicians screen children aged 6 years and older for obesity and offer them or refer them to comprehensive, intensive behavioral interventions to promote improvement in weight status.

Grade: [B recommendation](#).

Screening for and Management of Obesity in Adults

This topic page summarizes the U.S. Preventive Services Task Force (USPSTF) recommendation on screening for and management of obesity in adults.

Current Recommendation

Release Date: June 2012

- The USPSTF recommends screening all adults for obesity. Clinicians should offer or refer patients with a body mass index (BMI) of 30 kg/m² or higher to intensive, multicomponent behavioral interventions.

Grade: [B Recommendation](#).

What about obesity and cancer patients?

- Observational evidence is building that obesity adversely affects in cancer patients
 - Poor cancer outcomes in cancer patients
 - Second primary cancers in cancer survivors
 - Death from other obesity-associated chronic diseases in cancer survivors

Review

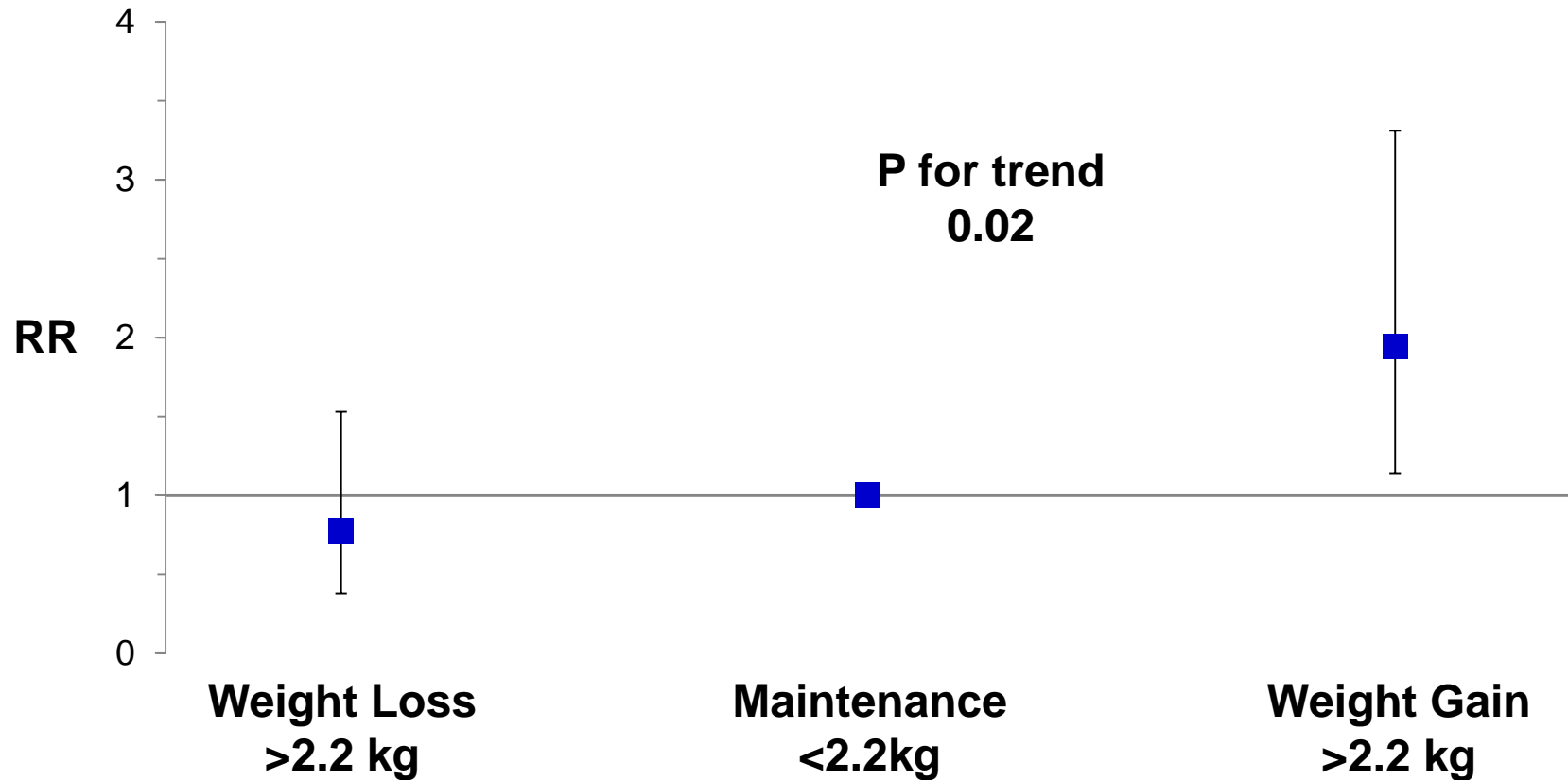
The Role of Obesity in Cancer Survival and Recurrence

Wendy Demark-Wahnefried¹, Elizabeth A. Platz², Jennifer A. Ligibel³, Cindy K. Blair¹, Kerry S. Courneya⁴, Jeffrey A. Meyerhardt³, Patricia A. Ganz⁵, Cheryl L. Rock⁶, Kathryn H. Schmitz⁷, Thomas Wadden⁸, Errol J. Philip⁹, Bruce Wolfe¹⁰, Susan M. Gapstur¹¹, Rachel Ballard-Barbash¹², Anne McTiernan¹⁵, Lori Minasian¹³, Linda Nebeling¹⁴, and Pamela J. Goodwin¹⁶

Abstract

Obesity and components of energy imbalance, that is, excessive energy intake and suboptimal levels of physical activity, are established risk factors for cancer incidence. Accumulating evidence suggests that these factors also may be important after the diagnosis of cancer and influence the course of disease, as well as overall health, well-being, and survival. Lifestyle and medical interventions that effectively modify these factors could potentially be harnessed as a means of cancer control. However, for such interventions to be maximally effective and sustainable, broad sweeping scientific discoveries ranging from molecular and cellular advances, to developments in delivering interventions on both individual and societal levels are needed. This review summarizes key discussion topics that were addressed in a recent Institute of Medicine Workshop entitled, "The Role of Obesity in Cancer Survival and Recurrence"; discussions included (i) mechanisms associated with obesity and energy balance that influence cancer progression; (ii) complexities of studying and interpreting energy balance in relation to cancer recurrence and survival; (iii) associations between obesity and cancer risk, recurrence, and mortality; (iv) interventions that promote weight loss, increased physical activity, and

Men who gain weight have a higher risk of prostate cancer recurrence after prostatectomy



Weight change from 5 years before to 1 year after surgery

Adjusted for weight 5 years before surgery, height, physical activity 1 year after surgery, age, race/ethnicity, family history, year of surgery, stage, grade, and smoking status.

Research is desperately needed on weight loss and inactivity interventions in cancer patients and survivors

- What is the nature of the intervention specific to cancer patients and survivors?
- When should interventions begin relative to diagnosis, and treatment and survivorship?
- Maryland has two NCI-designated cancer centers, exactly the type of place where this research can and should be done!

Secondary prevention: Cancer screening

- Affordable Care Act: covered (cancer screening) preventive services
 - Colorectal Cancer screening for adults over 50
 - Breast Cancer Mammography screenings every 1 to 2 years for women over 40
 - Cervical Cancer screening for sexually active women
 - Human Papillomavirus (HPV) DNA Test: high risk HPV DNA testing every three years for women with normal cytology results who are 30 or older
 - <https://www.healthcare.gov/what-are-my-preventive-care-benefits/>

Colorectal cancer screening

- Colorectal cancer
 - Per CDC, **Maryland is #1** in percentage decrease in colorectal cancer incidence rates among all US states from 2003-2007
 - 6.5% per year (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6026a4.htm>)
 - We're still missing some Marylanders, though with our colorectal cancer screening efforts

Colorectal cancer incidence and mortality rates (per 100,000 population) and lack of screening by colonoscopy/sigmoidoscopy			
	Maryland	Baltimore City	US
Mortality*			
White	14.5 (14.0-15.0)	18.5	15.0 (15.0-15.1)
Black	20.9 (19.7-22.0)	24.5	21.6 (21.3-21.8)
Other races	10.0 (8.0-12.0)	NA	10.8 (10.5-11.0)
Hispanic	8.0 (5.8-10.6)	NA	12.0 (11.8-12.2)
Incidence*			
White	34.8 (33.7-36.3)	44.0	38.0 (37.8-38.1)
Black	41.6 (39.6-44.0)	45.3	46.5 (46.1-47.0)
Other races	24.6 (20.9-28.6)	NA	30.2 (29.6-30.8)
Hispanic	26.9 (22.0-32.4)	NA	32.4 (31.9-32.8)
NEVER had a screening sigmoidoscopy or colonoscopy, among adults 50+ years old ***			
White	28.6% (27.6-29.6)	31.6% (26.1-37.1)	33.2%
Black	30.6% (28.2-33.0)	35.8% (30.4-41.2)	37.1%
Other races	43.5% (37.1-49.9)	NA	43.1%
Multiracial	35.6% (26.1-45.1)	NA	39.1%
Hispanic	34.7% (27.1-42.4)	NA	46.5%

~30% have never been screened!

*2006-10, <http://wonder.cdc.gov/cancermpcr.html>

** 2005-09, 2012 MD Cancer Report <http://phpa.dhmh.maryland.gov/cancer>

***Maryland BRFSS, <http://www.marylandbrfss.org/>, 2006-10

**** US BRFSS, <http://apps.nccd.cdc.gov/>

CRC screening: "adults aged 50+ who have ever had a sigmoidoscopy or colonoscopy";

Should our goal be to eliminate colorectal cancer incidence in Maryland altogether?

- Would result in eliminating disparities for this cancer.
- Need to keep Maryland's momentum going
 - Could mapping the location of our Maryland colorectal cancer cases help?
 - Which communities have our efforts
 - Missed?
 - Been less effective in?
 - Should we actively monitor the quality of colonoscopic screening?
 - Rigorous requirements under CRF-reimbursed screening, but not necessarily true otherwise

Need to keep Maryland's momentum going

November 7, 2013



Centers for Disease Control and Prevention
CDC 24/7: Saving Lives. Protecting People.™

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New CDC Vital Signs: Colorectal cancer testing needs to increase among adults

Colorectal cancer is the second leading cancer killer among men and women in the United States, after lung cancer. About 1 in 3 adults is not getting screened for colorectal cancer as recommended by the U.S. Preventive services Task Force (USPSTF), according to a new *Vital Signs* report: *Colorectal Cancer Screening Test Use - 2012*, released today.

Colorectal cancer screening saves lives, but only if people get tested. Adults aged 50 to 75 years should get tested with one or a combination of these screening tests:

- Fecal occult blood test (FOBT) or fecal immunochemical test (FIT) done at home every year,
- Flexible sigmoidoscopy, done every five years, with FOBT/FIT done every three years,
- Colonoscopy done every 10 years.

Colorectal cancer screening can increase if doctors, nurses, and health systems:

- Offer all recommended tests options with advice about each test.
- Match patients with the test they are most likely to complete.
- Work with public health officials to get more people tested using patient navigators to help people through procedures like colonoscopy.
- Make it easier for people to get FOBT/ FIT kits in places other than a doctor's office, like giving them out at flu shot clinics or mailing them to their homes.



- Should we offer other options for colorectal cancer screening, if colonoscopy is not acceptable to an individual?
 - Need to screen annually
 - Need to ensure continuity of screening over time

If our goal is to eliminate colorectal cancer incidence in Maryland altogether, then we need major INNOVATION in screening

- Develop novel cancer colorectal cancer screening tests (e.g., biomarkers, devices)
 - Involve basic science discovery → testing in observational settings (e.g., epidemiologic cohorts) → testing prospectively in clinical trials against standard screening methods
- Develop new approaches to the implementation of cancer screening tests (e.g., venues, algorithms, clinical-decision support tools)
 - New venues will require new paradigms to ensure continuity of care
 - Monitor the implementation of cancer screening, including quality assurance

Don't forget that the development of colorectal cancer can be prevented

Proportion of colon cancer risk that is potentially preventable in the population

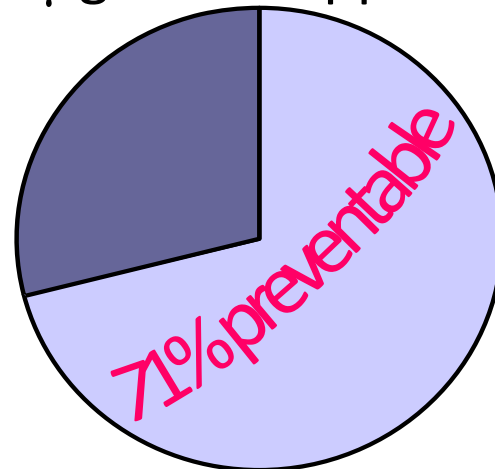
Risk factors

- Obesity
- Inactivity
- Smoking
- Alcohol
- Red meat intake
- Low folic acid intake

Sub-optimal level

- > 25 kg/m²
- < 15 MET-hours/week
- > 3 packyears
- > 15 g/day or former drinker
- > 2 servings/week
- < 100 µg from supplement

If everyone had 'good' levels:



Lung cancer screening

- The National Lung Screening Trial showed that detecting lung cancers early by screening current and former cigarette smokers with low-dose CT coupled with treatment reduces death from lung cancer.
- Recall that under ACA, insurers must cover preventive services that receive an USPSTF A or B recommendation

Screening for Lung Cancer: U.S. Preventive Services Task Force Recommendation Statement DRAFT

Summary of Recommendation and Evidence

The U.S. Preventive Services Task Force (USPSTF) recommends annual screening for lung cancer with low-dose computed tomography (LDCT) in persons at high risk for lung cancer based on age and smoking history.

This is a **Grade B recommendation**.

Reduced Lung-Cancer Mortality with Low-Dose Computed Tomographic Screening

The National Lung Screening Trial Research Team*

ABSTRACT

BACKGROUND

The aggressive and heterogeneous nature of lung cancer has thwarted efforts to reduce mortality from this cancer through the use of screening. The advent of low-dose helical computed tomography (CT) altered the landscape of lung-cancer screening, with studies indicating that low-dose CT detects many tumors at early stages. The National Lung Screening Trial (NLST) was conducted to determine whether screening with low-dose CT could reduce mortality from lung cancer.

METHODS

From August 2002 through April 2004, we enrolled 53,454 persons at high risk for lung cancer at 33 U.S. medical centers. Participants were randomly assigned to undergo three annual screenings with either low-dose CT (26,722 participants) or single-view posteroanterior chest radiography (26,732). Data were collected on cases of lung cancer and deaths from lung cancer that occurred through December 31, 2009.

RESULTS

The rate of adherence to screening was more than 90%. The rate of positive screening tests was 24.2% with low-dose CT and 6.9% with radiography over all three rounds. A total of 96.4% of the positive screening results in the low-dose CT group and 94.5% in the radiography group were false positive results. The incidence of lung cancer was 645 cases per 100,000 person-years (1060 cancers) in the low-dose CT group, as compared with 572 cases per 100,000 person-years (941 cancers) in the radiography group (rate ratio, 1.13; 95% confidence interval [CI], 1.03 to 1.23). There were 247 deaths from lung cancer per 100,000 person-years in the low-dose CT group and 309 deaths per 100,000 person-years in the radiography group, representing a relative reduction in mortality from lung cancer with low-dose CT screening of 20.0% (95% CI, 6.8 to 26.7; $P=0.004$). The rate of death from any cause was reduced in the low-dose CT group, as compared with the radiography group, by 6.7% (95% CI, 1.2 to 13.6; $P=0.02$).

CONCLUSIONS

Screening with the use of low-dose CT reduces mortality from lung cancer. (Funded by the National Cancer Institute; National Lung Screening Trial ClinicalTrials.gov number, NCT00047385.)

The members of the writing team (who are listed in the Appendix) assume responsibility for the integrity of the article. Address reprint requests to Dr. Christine D. Berg at the Early Detection Research Group, Division of Cancer Prevention, National Cancer Institute, 6130 Executive Blvd., Suite 3112, Bethesda, MD 20892-7346, or at bergc@mail.nih.gov.

*A complete list of members of the National Lung Screening Trial research team is provided in the Supplementary Appendix, available at NEJM.org.

This article (10.1056/NEJMoa1102873) was published on June 29, 2011, at NEJM.org.

N Engl J Med 2011;365:395-409.

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JAMA 2011;306:1865-73

- Lung cancer mortality rates were 20% lower in the low dose CT arm than the comparison arm.

- Positive screen in low dose CT arm – 24.2%!
 - Of these, 96.4% were false positives!!!!

- How will our Maryland health systems manage these patients, and the associated burden and costs to the system?

Summary of cancer prevention and control in Maryland: the next 20 years

- Develop and implement comprehensive, integrated, and shared approaches with other chronic diseases
 - I've described mostly a piecemeal approach
 - Will require extensive collaboration
- Pick the most important problems to have the greatest benefit to all Marylanders
 - Highest prevalence (risk factors)
 - Highest incidence, mortality
 - Biggest increase in cancer rates
 - Major disparities, either in risk factors or in cancer rates
- Add strategies for population health to strategies for public health and patient care

Summary of cancer prevention and control in Maryland: the next 20 years

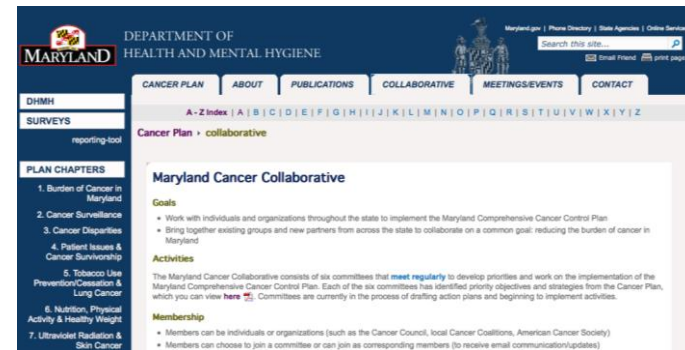
- Screening
 - Colorectal cancer
 - Set a lofty goal – eliminate colorectal cancer incidence in Maryland
 - Enhance quality of existing evidence-based cancer screening
 - Innovate new technologies and care models
 - Lung cancer
 - Determine how to implement screening

Summary of cancer prevention and control in Maryland: the next 20 years

- A personal implorement:
- We can't let Marylanders fall through the cracks for cancer prevention, screening, diagnosis, treatment, and palliative care services in the Affordable Care Act era
 - Those new to health insurance may not be accustomed to engaging with the health system
 - Marylanders with bronze- and silver- level health insurance coverage may not have the \$\$\$ to pay for care subsequent to the preventive services received without cost sharing
 - How can we ensure safety nets stay in place?

Maryland's Comprehensive Cancer Control Plan and its implementation

- We all have an obligation to implement Maryland's Cancer Plan
 - Pick up the Plan periodically
 - Identify important strategies relevant to you as a Marylander and in your professional role.
 - Implement!
- The Maryland Cancer Collaborative is the group charged with plan implementation.
 - Join as a individual or organizational member
 - Report Plan implementation to the Collaborative.



<http://phpa.dhmm.maryland.gov/cancer/cancerplan/SitePages/collaborative.aspx>

Other primary prevention of cancer strategies that work

- Vaccination
 - HPV
 - HBV
 - Liver cancer rates are on the rise

Cancer screening is not necessarily a “good”

- While screening for some cancers has documented benefits, it may also result in harms.
- Physical harms include:
 - Detection of lesions that are not cancer, but that must be medically or surgically worked up (false positives)
 - Detection of cancers that are indolent, but that are often treated (over detection and over treatment)
 - Adverse effects of the screening and the subsequent diagnostic tests (e.g., bleeding and infection due to biopsy) and treatments.
- Psychological harms may also result, including worry over screening results in those who are later found to be false positives.
- Healthcare system burden and financial harms may also result from false positives, over detection and over treatment, and associated adverse effects.

Special populations

- Cancer risk in HIV-infected Marylanders?
 - Does their immunocompromised status modify risk?
 - Does long-term anti-viral treatment modify risk?
- Is risk the same or different as Marylanders as a whole?
- More research is definitely needed to provide optimal care.

Secondary prevention:

Evolving cancer screening recommendations

- Causing confusion
 - Patients
 - Providers
 - Survivors
 - Advocacy groups
- Uncertainties arise because of
 - New knowledge, evidence
 - New tools
- Leading to inconsistent recommendations
 - USPSTF
 - Professional Societies
 - American Cancer Society

More efficiently keeping track of Maryland's cancer burden

- Promote taking advantage of electronic medical records
 - Promoting uptake of the meaningful use stage 2 – reporting from the EMR to cancer registries
 - http://www.cdc.gov/cancer/npcr/meaningful_use.htm

Palliative Care

- Finally, traction
 - Continued education of the public
 - Continued implementation